

September 2020

# **A Contractor's Race Against The Clock**

## **A Winning Approach to Project Pursuits**



# **“We Had No Idea”**

## **UDOT at the Cutting Edge of Road Safety**

### **Introduction**

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In April of 2020, JF White Contracting Company, a subsidiary of Dragados USA, decided to respond to an RFP for a multi-million dollar Massachusetts DOT design-build contract. The project in question consisted of the replacement of four sets of bridges along a four mile section of Interstate 90, also known as The Massachusetts Turnpike. This seemingly straightforward task was made more complex by the requirements to maintain normal traffic flow on weekdays, and interrupt toll collections as little as possible. Due to this need, MassDOT would only allow construction and lane closures to take place on weekends between Friday at 9:00 pm and Monday at 5:00 am.



JF White was faced with a threefold race against time for this competitive contract. First, they had just a few short weeks to develop and submit a proposal that included a detailed plan for construction staging and maintenance of traffic, along with the total costs. Second, after submission of the bid they had only two weeks to prepare for their technical interview. Third, at the interview itself they had only one hour to present and review their technical proposal to MassDOT's evaluators to receive their final technical score for this multi-million dollar Design-Build pursuit. The project would be awarded based on the best value-per-dollar grade calculated as the technical score divided by the proposal cost.

The RFP included a staging plan developed by MassDOT and their own consultant, but JF White had developed an alternative plan that they believed was better and met the objectives more quickly and with fewer disruptions. Their challenge was to be able to communicate this plan effectively within a few minutes at their interview. According to JF White's Area Manager Rob Collari, "MassDOT and their own engineering consultant understood their own scheme, but we needed a visual way to highlight the benefits of JF White's plan over the original MassDOT plan".

## **A Solution in the Nick of Time**

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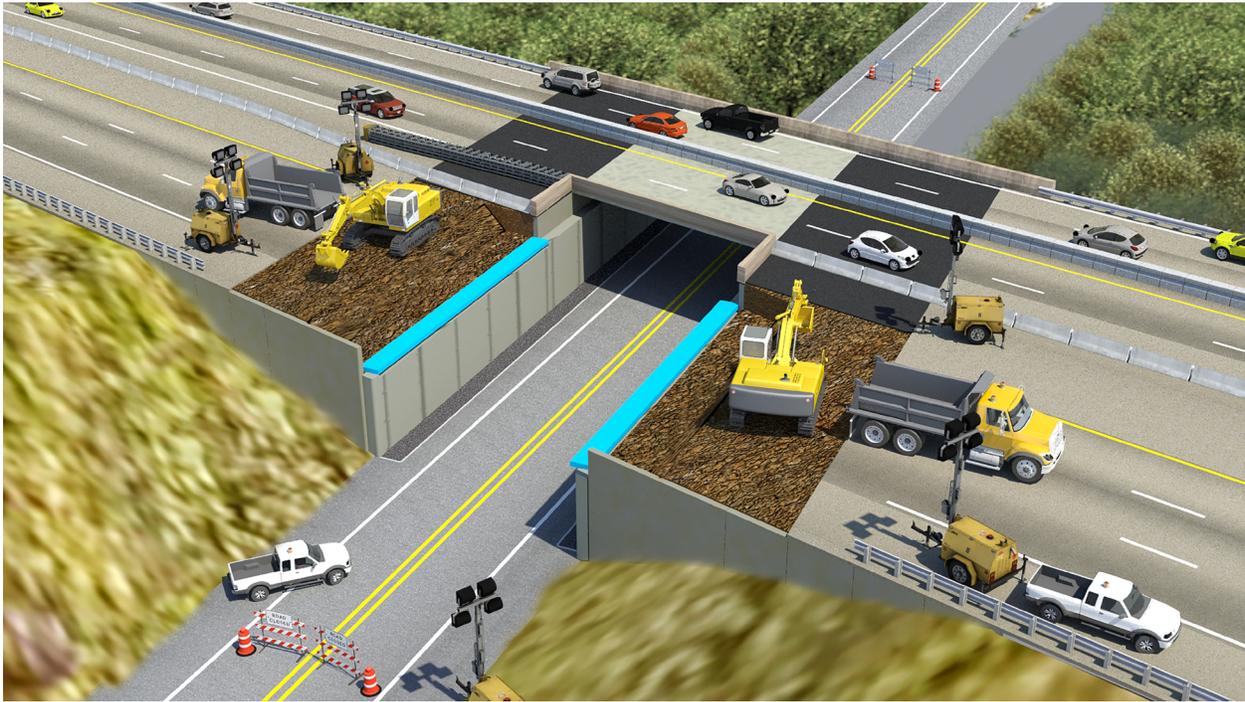
Jack Pecora and Rob Collari of JF White turned to RDV Systems, a provider of cloud based 3D visualization technologies and services. They had engaged RDV on a previous construction project to provide visualizations used for public involvement, and had confidence that RDV could deliver quality products within the deadlines.

RDV embarked on two parallel visualization efforts. The first was a "4D" video showing the construction process for one bridge over a single weekend. The second was the development of a 3D project model of the entire site showing the order of operations and traffic diversions over eight consecutive weekends. Within a few weeks, RDV developed both the 4D video and a complete interactive 3D Project Model of the entire project. Images from the model and the 4D video were included in JF White's proposal.

The "4D" model, produced together with Real Image Solutions, was an animation tied to a time clock running from Friday evening to Monday morning.



As the clock progressed, the video showed animated steps such as removal of the existing superstructure, replacement of bridge seats, placement of pre-cast girders, concrete pours, replacement of approach slabs, and re-stripping to prepare for resumption of traffic. This video precisely showed how JF White planned maximum efficiency in each weekend while allowing weekday traffic flow to resume on schedule.



*4D video of bridge replacement process*

Type to enter text The 3D virtual model was used to create a “storyboard” video that showed the various stages of JF White’s plan over the course of the entire project. The model included multiple view states showing traffic flow and construction stages for each of the eight weekends. The storyboard video stepped through each weekend in sequence, showing how and where traffic diversions would occur and which bridges were being worked on. This video was able to show the entire scope of JF White’s plan, and clearly conveyed how they would implement construction and maintain traffic given the complicated variables.



## The Win

The visualization materials were key in communicating JF White's complex solution, and were a deciding factor in their proposal receiving the highest technical score. RDV was able to deliver high quality and compelling visualization within the tight deadline required. Shortly after their successful proposal meeting, JF White was announced as the winner of the project bid, with a proposal cost of 49 million dollars.

*"We were going through a dry spell, and we needed this win. We couldn't afford to have our proposal be misunderstood due to inadequate visual assets. RDV's video simulation was the best way to communicate our plan"*

*- Robert Collari, Area Manager*



A Dragados Company

After having won the bid, JF White can now utilize the RDV project model to conduct design review, compare alternatives and updates, and create new visual assets when engaging with the public and other stakeholders. The communicative visuals that assisted JF White in winning the project bid will serve as a living document as they continue to develop and implement their plan.

**Join the Road Safety Innovation.**

**Contact RDV Systems Today:**



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